

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

F1_M3

C Number: C20701

Lock Date: 02/24/2009

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

Study Gender: Both

TDMSE Version: 2.2.0

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B6C3F1 MICE MALE	0 mg/m ³	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			8	8	8	8	8	8	8	8	8	8
			9	9	9	9	9	9	9	9	9	9
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0
			* TOTALS									

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	M		9
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+		10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+		10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+		10
Liver Necrosis	+	+	+	+	+	+	+	+	+	+		10
											1	1.0
Pancreas	+	+	+	+	+	+	+	+	+	+		10
Salivary Glands	+	+	+	+	+	+	+	+	+	+		10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+		10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+		10

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue
X .. Lesion present A .. Autolysis precludes evaluation
I .. Insufficient tissue BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

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B6C3F1 MICE MALE	0 mg/m ³	DAY ON TEST											* TOTALS
			0 0 8 9										
		ANIMAL ID	0 1 0 0	* TOTALS									
Blood Vessel			+	+	+	+	+	+	+	+	+	+	10
Heart			+	+	+	+	+	+	+	+	+	+	10
ENDOCRINE SYSTEM													
Adrenal Cortex			+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla			+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic			+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland			+	M	M	+	M	M	+	M	+	+	5
Pituitary Gland			+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland			+	+	+	+	+	+	+	+	+	+	10
GENERAL BODY SYSTEM													
NONE													
GENITAL SYSTEM													
Epididymis			+	+	+	+	+	+	+	+	+	+	10
Preputial Gland			+	+	+	+	+	+	+	+	+	+	10
Prostate			+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle			+	+	+	+	+	+	+	+	+	+	10

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B6C3F1 MICE MALE	0 mg/m ³	DAY ON TEST											* TOTALS
			0 0 8 9										
		ANIMAL ID	0 1 0 0										
Testes			+	+	+	+	+	+	+	+	+	+	10
HEMATOPOIETIC SYSTEM													
Bone Marrow			+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial Pigmentation			+	M	+	M	M	+	+	+	+	M	6
			1				1						2 1.0
Lymph Node, Mandibular			M	+	+	M	M	+	+	+	M	M	5
Lymph Node, Mediastinal			M	M	M	M	M	M	M	M	M	M	1
Lymph Node, Mesenteric			+	M	+	+	+	+	+	+	+	+	9
Spleen			+	+	+	+	+	+	+	+	+	+	10
Thymus			+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM													
Mammary Gland			M	M	M	M	M	M	M	M	M	M	0
Skin			+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM													
Bone			+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM													

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			0	0	0	0	0	0	0	0	0	0
ANIMAL ID		8	8	8	8	8	8	8	8	8	8	8
		9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0	
												* TOTALS
Brain			+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM												
Larynx			+	+	+	+	+	+	+	+	+	10
Metaplasia, Squamous												1 1.0
Lung			+	+	+	+	+	+	+	+	+	10
Nose			+	+	+	+	+	+	+	+	+	10
Trachea			+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM												
Eye			+	+	+	+	+	+	+	+	+	10
Harderian Gland			+	+	+	+	+	+	+	+	+	10
Inflammation, Acute			2	1	1	3	2		2		2	7 1.9
URINARY SYSTEM												
Kidney			+	+	+	+	+	+	+	+	+	10
Nephropathy												1 1.0
Papilla, Infiltration Cellular, Polymorphonuclear												1 2.0
Renal Tubule, Necrosis												1 2.0
Urinary Bladder			+	+	+	+	+	+	+	+	+	10

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE MALE	2 mg/m ³	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID		8	8	8	8	8	8	6	8	8	8	8
		9	9	9	9	9	9	3	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1	1
		2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	1	1
		1	2	3	4	5	6	7	8	9	0	0

* TOTALS

ALIMENTARY SYSTEM

Esophagus	+	1
Gallbladder	+	1
Intestine Large, Cecum	+	1
Intestine Large, Colon	+	1
Intestine Large, Rectum	+	1
Intestine Small, Duodenum	+	1
Intestine Small, Ileum	+	1
Intestine Small, Jejunum	+	1
Liver	+	1
Pancreas	+	1
Salivary Glands	+	1
Stomach, Forestomach	+	1
Hyperplasia, Squamous	2	2.0
Ulcer	1	1.0
Stomach, Glandular	+	1

CARDIOVASCULAR SYSTEM

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	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	8	8	8	8	8	6	8	8	8	8
		9	9	9	9	9	3	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1
		2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0

* TOTALS

Heart

+

1

ENDOCRINE SYSTEM

Adrenal Cortex

+

1

Adrenal Medulla

+

1

Islets, Pancreatic

+

1

Parathyroid Gland

+

1

Pituitary Gland

+

1

Thyroid Gland

+

1

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis

+ +

2

Preputial Gland

+

1

Prostate

+

1

Seminal Vesicle

+

1

Testes

+ +

2

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Lab: BNW

B6C3F1 MICE MALE	2 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			8	8	8	8	8	6	8	8	8	8
			9	9	9	9	9	3	9	9	9	9
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			2	2	2	2	2	2	2	2	2	2
			0	0	0	0	0	0	0	0	1	1
			1	2	3	4	5	6	7	8	9	0

* TOTALS

HEMATOPOIETIC SYSTEM

Bone Marrow		+										1
Lymph Node, Bronchial Pigmentation	M	M	+	M	M	+	M	+	+	M		4
Lymph Node, Mandibular												1
Lymph Node, Mediastinal												0
Lymph Node, Mesenteric												1
Spleen												1
Thymus												1

INTEGUMENTARY SYSTEM

Mammary Gland		M										0
Skin			+									1

MUSCULOSKELETAL SYSTEM

Bone		+										1
------	--	---	--	--	--	--	--	--	--	--	--	---

NERVOUS SYSTEM

Brain		+										1
-------	--	---	--	--	--	--	--	--	--	--	--	---

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Lab: BNW

		DAY ON TEST									
		ANIMAL ID									
B6C3F1 MICE MALE		0 8 8 8 8 8 8 6 8 8 8 9 9 9 9 9 9 3 9 9 9									
2 mg/m³		0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 0 0 0 0 0 0 0 0 0 1 1 2 3 4 5 6 7 8 9 0									

*** TOTALS****RESPIRATORY SYSTEM**

Larynx	I	+	+	+	+	+	+	+	+	+	9
Squamous Epithelium, Hyperplasia							2				1 2.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage							1				1 1.0
Pigmentation	1							1	1	1	4 1.0
Nose						+					1
Trachea					+						1

SPECIAL SENSES SYSTEM

Eye					+						1
Harderian Gland					+						1

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
Nephropathy						1					2 1.0
Urinary Bladder						+					1

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Lab: BNW

		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE MALE		0	0	0	0	0	0	0	0	0	0	0	
15 mg/m3		0	0	0	0	0	0	0	0	0	0	0	
		8	8	8	8	8	8	8	8	8	8	8	
		9	9	9	9	9	9	9	9	9	9	9	
		0	0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	1	
		4	4	4	4	4	4	4	4	4	4	4	
		0	0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0		

* TOTALS

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEMLymph Node, Bronchial
Pigmentation

+ + + + + M M M M M

5
2 1.0**INTEGUMENTARY SYSTEM**

NONE

MUSCULOSKELETAL SYSTEM

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		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1
		4	4	4	4	4	4	4	4	4	4
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx

Metaplasia, Squamous

+	+	+	+	+	+	+	+	+	+	+	10
			1		1		1	1	1		5 1.0

Lung

Inflammation, Chronic Active

Pigmentation

Alveolus, Infiltration Cellular, Histiocyte

+	+	+	+	+	+	+	+	+	+	+	10
1	1	1	1	1	1	1	1	1	1	1	10 1.0
3	3	3	3	2	2	2	2	2	2	3	10 2.5
3	3	3	3	2	2	2	2	2	2	3	10 2.5

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

Kidney

Renal Tubule, Necrosis

+	+	+	+	+	+	+	+	+	+	+	10
				1							1 1.0

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		0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	8	8	8	8	8	8	8	8	8	8
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1
		6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

* TOTALS

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	M	M	+	+	+	+	+	+	8
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver Inflammation, Granulomatous	+	+	+	+	+	+	+	+	+	1	10 1 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE MALE	30 mg/m3	DAY ON TEST											* TOTALS
			0 0 8 9	0 0 8 9	0 0 8 9								
ANIMAL ID	0 1 6 0 1	0 1 6 0 2	0 1 6 0 3	0 1 6 0 4	0 1 6 0 5	0 1 6 0 6	0 1 6 0 7	0 1 6 0 8	0 1 6 0 9	0 1 6 0 0			
Blood Vessel			+	+ +	+ +	+ +	+ +	+ +	+ +	+ +			9
Heart			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
ENDOCRINE SYSTEM													
Adrenal Cortex			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Adrenal Medulla			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Islets, Pancreatic			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Parathyroid Gland			M M	+ +	M M	+ +	+ +	+ +	+ +	+ +			6
Pituitary Gland			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Thyroid Gland			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
GENERAL BODY SYSTEM													
NONE													
GENITAL SYSTEM													
Epididymis			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Preputial Gland			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Prostate			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10
Seminal Vesicle			+ +	+ +	+ +	+ +	+ +	+ +	+ +	+ +			10

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE MALE	30 mg/m3	DAY ON TEST											* TOTALS
			0 0 8 9										
		ANIMAL ID	0 1 6 0 1	0 1 6 0 2	0 1 6 0 3	0 1 6 0 4	0 1 6 0 5	0 1 6 0 6	0 1 6 0 7	0 1 6 0 8	0 1 6 0 9	0 1 6 0 0	
Testes			+ + + + + + + + + +										10
HEMATOPOIETIC SYSTEM													
Bone Marrow			+ + + + + + + + + +										10
Lymph Node, Bronchial Pigmentation			+ + + + M + + + + +										9
			3 3 3 3 3 3 3 3 3 2										9 2.9
Lymph Node, Mandibular			+ M + M M + + M M M										4
Lymph Node, Mediastinal			+ M M + M + + M M M										4
Lymph Node, Mesenteric			+ + + + + + + + + +										10
Spleen			+ + + + + + + + + +										10
Thymus			+ + + + + + + + + +										10
INTEGUMENTARY SYSTEM													
Mammary Gland			M M M M M M M M M M										0
Skin			+ + + + + + + + + +										10
MUSCULOSKELETAL SYSTEM													
Bone			+ + + + + + + + + +										10
NERVOUS SYSTEM													

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE MALE	30 mg/m ³	DAY ON TEST											* TOTALS
			0 0 8 9										
		ANIMAL ID	0 1 6 0 1	0 1 6 0 2	0 1 6 0 3	0 1 6 0 4	0 1 6 0 5	0 1 6 0 6	0 1 6 0 7	0 1 6 0 8	0 1 6 0 9	0 1 6 0 0	
Brain			+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM													
Larynx			+	+	+	+	+	+	+	+	+	+	10
Metaplasia, Squamous			1	1	1	1	2	1	1	1	1	1	9 1.1
Lung			+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active			2	2	2	1	2	2	2	2	2	2	10 1.9
Pigmentation			3	3	3	3	3	3	3	3	3	3	10 3.0
Alveolus, Infiltration Cellular, Histiocyte			3	3	3	3	3	3	3	3	3	3	10 3.0
Nose			+	+	+	+	+	+	+	+	+	+	10
Olfactory Epithelium, Accumulation, Hyaline Droplet												1	1 1.0
Respiratory Epithelium, Accumulation, Hyaline Droplet						1							1 1.0
Trachea			+	+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM													
Eye			+	+	+	+	+	+	+	+	+	+	10
Harderian Gland			+	+	+	+	+	+	+	+	+	+	10
Inflammation, Acute			1		2	1	2	1	2	1			7 1.4
URINARY SYSTEM													
Kidney			+	+	+	+	+	+	+	+	+	+	10
Nephropathy						1				1			2 1.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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1-4 .. Lesion qualified as:

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TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST	0	0	0	0	0	0	0	0	0	0
B6C3F1 MICE MALE			0	0	0	0	0	0	0	0	0	0
30 mg/m3			8	8	8	8	8	8	8	8	8	8
			9	9	9	9	9	9	9	9	9	9
		ANIMAL ID	0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			6	6	6	6	6	6	6	6	6	6
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0
* TOTALS												
Renal Tubule, Necrosis			2	1					1			
3 1.3												
Urinary Bladder			+	+	+	+	+	+	+	+	+	+
10												

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m ³	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			8	8	8	8	8	8	8	8	8	8
			9	9	9	9	9	9	9	9	9	9
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			1	1	1	1	1	1	1	1	1	1
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0

* TOTALS

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Blood Vessel	+	+		+		+	M	+	+	+	+	7
--------------	---	---	--	---	--	---	---	---	---	---	---	---

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m ³	ANIMAL ID	DAY ON TEST											* TOTALS
			0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	0 0 8 9	
Heart			+ + + + + + + + + +											10
ENDOCRINE SYSTEM														
Adrenal Cortex			+ + + + + + + + + +											10
Adrenal Medulla			+ + + + + + + + + +											10
Islets, Pancreatic			+ + + + + + + + + +											10
Parathyroid Gland			+ M + + + + M + M M											6
Pituitary Gland			+ + + + + + + + + +											10
Thyroid Gland			+ + + + + + + + + +											10
GENERAL BODY SYSTEM														
NONE														
GENITAL SYSTEM														
Clitoral Gland			+ + + M + + + + + +											9
Ovary			+ + + + + + + + + +											10
Uterus			+ + + + + + + + + +											10
HEMATOPOIETIC SYSTEM														
Bone Marrow			+ + + + + + + + + +											10

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

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X .. Lesion present

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2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

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Date Report Requested: 03/19/2010

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m ³	DAY ON TEST													* TOTALS
			0 0 8 9	0 0 8 9											
		ANIMAL ID	0 1 1 0 1	0 1 1 0 2	0 1 1 0 3	0 1 1 0 4	0 1 1 0 5	0 1 1 0 6	0 1 1 0 7	0 1 1 0 8	0 1 1 0 9	0 1 1 0 0			
Lymph Node, Bronchial Pigmentation			M M M M M	M M M M M	+	M M M M M	M M M M M	M M M M M	+	M M M M M	+	M M M M M	+	5 2 1.0	
Lymph Node, Mandibular			+	M M M M M	+	+	+	+	M M M M M	+	+	M M M M M	+	6	
Lymph Node, Mediastinal			M M M M M	2											
Lymph Node, Mesenteric			+	+	+	M M M M M	+	+	+	+	+	+	+	+	9
Spleen			+	+	+	+	+	+	+	+	+	+	+	+	10
Thymus			+	+	+	+	+	+	+	+	+	+	+	+	10
INTEGUMENTARY SYSTEM															
Mammary Gland			+	+	+	+	+	+	+	+	+	+	+	+	10
Skin			+	+	+	+	+	+	+	+	+	+	+	+	10
MUSCULOSKELETAL SYSTEM															
Bone			+	+	+	+	+	+	+	+	+	+	+	+	10
NERVOUS SYSTEM															
Brain			+	+	+	+	+	+	+	+	+	+	+	+	10
RESPIRATORY SYSTEM															
Larynx			+	+	+	+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

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TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m ³	ANIMAL ID	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0
* TOTALS													
Lung				+	+	+	+	+	+	+	+	+	10
Hemorrhage													1 1.0
Nose				+	+	+	+	+	+	+	+	+	10
Respiratory Epithelium, Accumulation, Hyaline Droplet				1	1	1	1	1	1	1	1	1	5 1.0
Trachea				+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM													
Eye				+	+	+	+	+	+	+	+	+	10
Cornea, Necrosis													1 1.0
Harderian Gland				+	+	+	+	+	+	+	+	+	10
Inflammation, Acute				1	1	1	1	1	1	1	1	1	3 1.0
URINARY SYSTEM													
Kidney				+	+	+	+	+	+	+	+	+	10
Nephropathy													1 1.0
Urinary Bladder				+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

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1) Minimal 3) Moderate

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TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE 2 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	1	1	1	1	1	1	1	1	1	1
		3	3	3	3	3	3	3	3	3	3
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial
Pigmentation

M M M + + + + M + +
 1 1 1

6
3 1.0

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

- 1) Minimal
- 3) Moderate
- 2) Mild
- 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE FEMALE		0	0	0	0	0	0	0	0	0	0	0	
2 mg/m3		0	0	0	0	0	0	0	0	0	0	0	
		8	8	8	8	8	8	8	8	8	8	8	
		9	9	9	9	9	9	9	9	9	9	9	
		0	0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	1	
		3	3	3	3	3	3	3	3	3	3	3	
		0	0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0		

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx

Metaplasia, Squamous

+	+	+	+		+	+	+		+			8	
												1	1.0

Lung

Pigmentation

+	+	+	+	+	+	+	+	+	+	+		10	
												1	1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE 15 mg/m3	DAY ON TEST ANIMAL ID	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

* TOTALS

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial
PigmentationM + M M + + M + + M
15
1 1.0

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue
X .. Lesion present A .. Autolysis precludes evaluation
I .. Insufficient tissue BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE 15 mg/m3	DAY ON TEST ANIMAL ID	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx

Metaplasia, Squamous

+	+	+	+	+	+	+	+	+	+	+	10
1	1			1	1	1	1				6 1.0

Lung

Inflammation, Chronic Active

Pigmentation

Alveolus, Infiltration Cellular, Histiocyte

+	+	+	+	+	+	+	+	+	+	+	10
1							1	1			3 1.0
1	1	1	1	1	1	2	2	2	2	1	10 1.3
						2	2	2			3 2.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

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+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20701 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 1 micron)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:59:09

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	30 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			8	8	8	8	8	8	8	8	8	8
			9	9	9	9	9	9	9	9	9	9
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			7	7	7	7	7	7	7	7	7	7
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0

* TOTALS

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	M	I	+	M	+	+	+	+	+	7
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver Necrosis	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

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Lab: BNW

B6C3F1 MICE FEMALE	30 mg/m3	DAY ON TEST													* TOTALS	
			0 0 8 9													
		ANIMAL ID	0 1 7 0 1	1 1 7 0 2	1 1 7 0 3	1 1 7 0 4	1 1 7 0 5	1 1 7 0 6	1 1 7 0 7	1 1 7 0 8	1 1 7 0 9	1 1 7 0 0	1 1 7 0 1	1 1 7 0 2	1 1 7 0 3	
Blood Vessel			+ + + + + + + + + +													10
Heart			+ + + + + + + + + +													10
ENDOCRINE SYSTEM																
Adrenal Cortex			+ + + + + + + + + +													10
Adrenal Medulla			+ M + M + + + + + +													8
Islets, Pancreatic			+ + + + + + + + + +													10
Parathyroid Gland			M + + M M M M + M +													4
Pituitary Gland			+ + + + + + + + + +													10
Thyroid Gland			+ + + + + + + + + +													10
GENERAL BODY SYSTEM																
NONE																
GENITAL SYSTEM																
Clitoral Gland			+ M + + + M + + + +													8
Ovary			+ + + + + + + + + +													10
Uterus			+ + + + + + + + + +													10
HEMATOPOIETIC SYSTEM																

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TDMS No. 20701 - 02

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B6C3F1 MICE FEMALE	30 mg/m3	DAY ON TEST											* TOTALS		
			0 0 8 9	0 0 8 9	0 0 8 9										
ANIMAL ID	0 1 7 0 1	0 1 7 0 2	0 1 7 0 3	0 1 7 0 4	0 1 7 0 5	0 1 7 0 6	0 1 7 0 7	0 1 7 0 8	0 1 7 0 9	0 1 7 0 0					
Bone Marrow	+ + + + + + + + + +													10	
Lymph Node, Bronchial Pigmentation	+ + M M + I M + + +													6	
Lymph Node, Mandibular	+ M M + + + M M + +													6	
Lymph Node, Mediastinal	+ M M M M + M + + M													4	
Lymph Node, Mesenteric	+ + + + + + + + + +													10	
Spleen	+ + + + + + + + + +													10	
Thymus	+ + + + + + + + + +													10	
INTEGUMENTARY SYSTEM															
Mammary Gland Inflammation, Acute	+ + + + + + + + + +													10	
Skin	+ + + + + + + + + +													10	
MUSCULOSKELETAL SYSTEM															
Bone	+ + + + + + + + + +													10	
NERVOUS SYSTEM															
Brain	+ + + + + + + + + +													10	
RESPIRATORY SYSTEM															

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B6C3F1 MICE FEMALE	30 mg/m ³	DAY ON TEST											* TOTALS	
			0 0 8 9											
ANIMAL ID														
	1	0	0	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	1	1	1	1	1	1	
	7	7	7	7	7	7	7	7	7	7	7	7	7	
	0	0	0	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	9	0			
Larynx		+	+	+	+	+	+	+	+	+	+	+	10	
Metaplasia, Squamous		1	1	1	1	1	2	1	1	2	1		9	1.2
Lung		+	+	+	+	+	+	+	+	+	+	+	10	
Inflammation, Chronic Active		2	2	2	2	2	2	2	2	2	2	2	10	2.0
Pigmentation		3	3	3	3	3	3	3	3	3	3	3	10	3.0
Alveolus, Infiltration Cellular, Histiocyte		3	3	3	3	3	3	3	3	3	3	3	10	3.0
Nose		+	+	+	+	+	+	+	+	+	+	+	10	
Olfactory Epithelium, Accumulation, Hyaline Droplet													2	1.0
Respiratory Epithelium, Accumulation, Hyaline Droplet		1					1		2	1			4	1.3
Trachea		+	+	+	+	+	+	+	+	+	+	+	10	
SPECIAL SENSES SYSTEM														
Eye		+	+	+	+	+	+	+	+	+	+	+	10	
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	10	
Inflammation, Acute		1	1	1	1	1	1	1	1	1	1	1	7	1.0
URINARY SYSTEM														
Kidney		+	+	+	+	+	+	+	+	+	+	+	10	
Nephropathy													1	1.0
Urinary Bladder		+	+	+	+	+	+	+	+	+	+	+	10	

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